Strategic Information Plan 2001-2005

Summary

Playing a Strategic Role Through a World-Class Infrastructure

ARL

Technology to Win

Information

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ARMY RESEARCH LABORATORY, STRATEGIC INFORMATION PLAN

Information is the fourth element of power. We are dependant on its availability, accuracy, timeliness, flow, and interoperability. These things will not happen unless we have a clear vision and plan to make it so. This document is the first of its kind in the Army Research Laboratory and it provides one of the corner stones to the future success of the Army Research Laboratory in our effort to provide technology to win for all our warfighters.

This Strategic Information Plan provides overall ARL guidance for managing information resources and establishes the ARL information related goals. It provides the objectives and strategies required for accomplishing those goals. The ARL Strategic Information Plan supports the goals of the Headquarters Army Materiel Command, Department of the Army and the Department of Defense as well as Army Transformation Goals and Objectives, Joint Vision 2010, 2020 and the soon to be released ARL Common Operating Environment (COE). The plan fulfills the strategic planning requirements of the Paperwork Reduction Act of 1995, as amended, OMB Circular A-130, and HQ AMC guidance.

The Strategic Information Plan is a five-year plan to ensure ARL's compliance with the Clinger-Cohen Act, the Government Performance and Results Act, the Paperwork Reduction Act, AR 25-1 Army Information Management, as well as the Department of Defense Information Technology Strategic Plan and the Army Materiel Command Information Technology Strategic Plan.

This document applies to all ARL employees, tenants and contractors.

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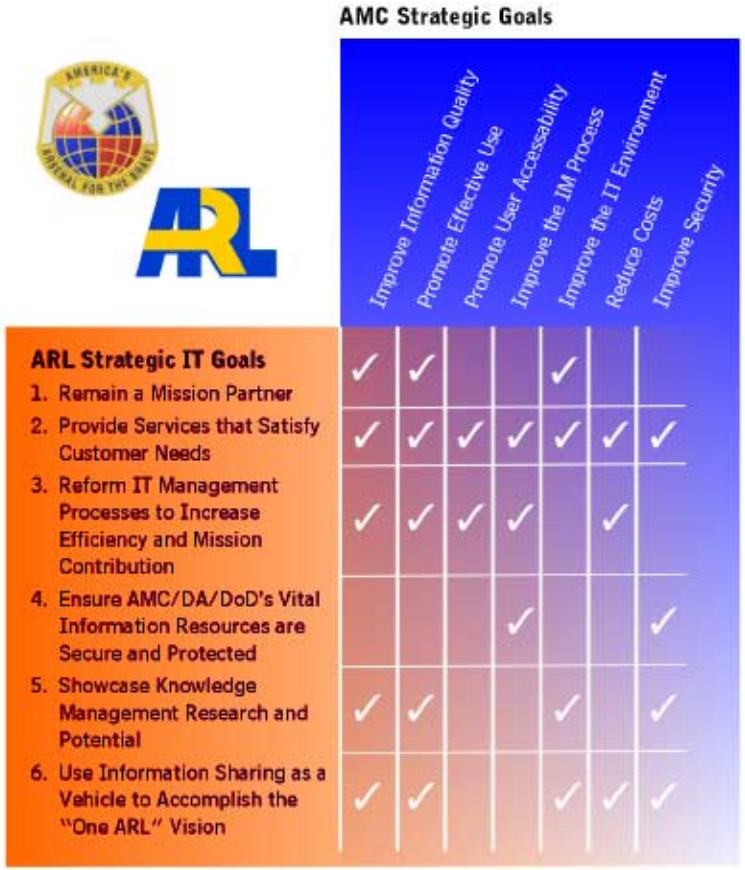
Director

Introduction

Information is now often referred to as the fourth element of power and has thus become an important key to our national security. This strategic plan provides a roadmap for realizing more efficient and effective mission support for ARL to AMC, the Army, and DoD. ARL has identified this as building a "World Class Infrastructure." The execution of this plan requires leadership and commitment to work toward our common goals. This ARL Strategic Information Plan does not address specific programs or budgets. It serves as a framework for the development of more detailed plans that identify specific programs and initiatives and relate them back to the overall ARL mission. It is in this context that an Enterprise Resource Planning (ERP) project has been identified and is being proposed. An ERP can incorporate business intelligence, knowledge management, and information sharing. Ultimately an ERP could greatly assist ARL in measuring progress toward the goals addressed in this strategic plan, and support the ARL Corporate Vision of "one ARL", and the ARL CIO Vision of making information and decision superiority a reality for ARL. This plan provides a roadmap for pursuing significant improvements well into the next decade. However, the execution of this plan requires commitment to work together toward our common goals and achieving the vision of "one ARL".

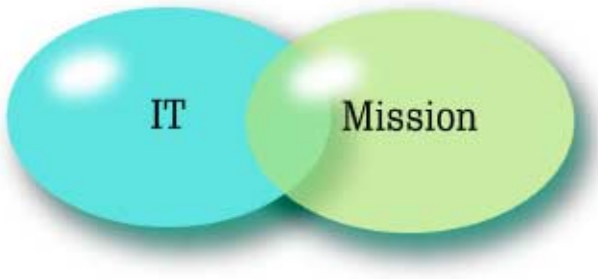


This strategic information plan complies with the Clinger-Cohen Act (CCA) of 1996 (formerly the Information Technology Management Reform Act of 1996) and the Government Performance and Results Act (GPRA), Paperwork Reduction Act (PRA), and other Office of Management and Budget (OMB) mandates and guidelines, and AR 25-1, Army Information Management, as well as the 1999 DoD IM Strategic Plan version 2.0 and the AMC IT Strategic Plan version 1.0. This body of laws and regulations has provided the opportunity to move from budget and acquisition centric decision making to mission, architecture, service, and performance-based decision making.

Subdivision E of the Clinger-Cohen Act mandates that we improve our day-to-day mission processes and properly use IT to support those improvements. Technology as an enabler of reform must be fielded orderly, promptly, and efficiently. We must use streamlined acquisition processes, commercial off-the-shelf (COTS) products and services, outsourcing, and partnering, as appropriate, to take advantage of industry capabilities. The IT investment portfolio concept, as put forth in CCA, emphasizes the need to do a better job of prioritizing IT capital investments and being accountable for results. Accountability extends from the individual to the mission commanders and the Congress. Keeping our military and civilian workforce trained in new technologies and improved processes is critical to maintaining our fighting edge and achieving savings. Finally, all this is in vain if our information is not protected.

Goal 1—
Remain a Mission Partner

Description: Joint Vision 2010 (JV2010) recognizes information superiority as the enabler for full spectrum dominance in the 21st century and Joint Vision 2020 (JV2020) reinforces those goals. Overall, ARL must leverage information resources and technology to improve the performance of its mission while realizing major efficiencies in how we conduct our business functions. Mission processes, information uses and services must be clearly understood and communicated to all employees in order to drive IT planning and resource decisions. The link from doctrine, strategy, goals, measures, and architectures to IT must be clear and compelling.



ARL must focus on the customer's needs in relationship to Knowledge Management, Information Assurance, and Information Warfare to improve their Research and Development efforts in support of JV2010, JV2020, and the Army Objective Force Structure. Relationships with military commanders and functional managers must remain strong to assist with formulating strategic plans that capitalize on the potential of information technology to revolutionize military, logistic and business affairs to align IT with the mission.

This strategy envisions an assessment and analysis process that addresses all elements of military capability holistically from an ARL/AMC/Defense-wide perspective leading to capstone requirements documents that apply operational architectures to define tasks and information exchange requirements. This strategy requires linking the JV2010 information superiority implementation process, the Joint War fighting Capabilities Assessment (JWCA) process, and customer processes to provide an integrated set of desired operational IT capabilities and the adequacy of programs and initiatives to meet the IT need.

Objective 1.1 Identify Mission Needs and Align Information Technology (IT)

Striving Toward "One ARL"

Strategy 1.1.1 Influence strategic planning and align IT strategically to mission plans

Promote strategic planning as the basis for investing in IT. Strengthen collaborative relationships with military commanders and functional managers to help them formulate strategic plans that capitalize on the potential of IT to revolutionize military, logistic and business affairs. This strategy envisions having functional strategic plans with goals and performance measures for all ARL functional areas to improve program planning and as a basis for aligning IT with the mission by 2003.

Strategy 1.1.2 Promote and institutionalize methods to improve mission processes

Using business process improvement disciplines to rigorously analyze mission area processes and relate those to strategic goals and measures of performance for the mission recognizes major improvements. Integrating processes across current stovepipes recognizes order of magnitude improvements. The initial target is to get a core set of consistent process models for all functional areas and activities necessary to analyze opportunities and select those with the highest payoff. This strategy requires establishing policies for conducting business consistently across all mission and mission support domains by 2002. ARL must have a comprehensive plan for reengineering its functions before investing in IT.

Objective 1.2 Forge Effective Partnerships with Customers

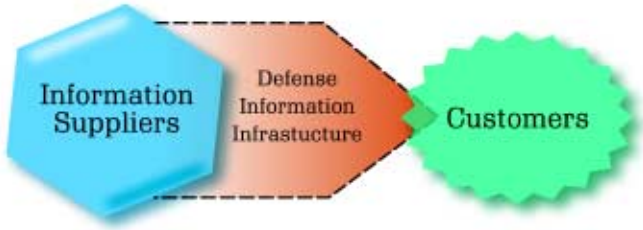
Strategy 1.2.1 Promote organization structures for effective partnering
The ultimate responsibility for managing processes, investing in IT, and assessing the contribution of IT to the mission rests with commanders, process owners and line managers. This strategy requires positioning IT to influence key functional decisions by designing organizational structures to ensure functional and Information Management (IM) responsibilities are effectively executed and aligned at all levels. Existing management structures need to be assessed in the light of GPRA, Chief Financial Officer (CFO), Paperwork Reduction Act (PRA) and CCA mandates. This strategy can be accomplished by continuous, comprehensive, top-level review of IT management structures by the CIO at least annually.

Strategy 1.2.2 Educate customers on IT and communicate the IT mission
Customers need to have sufficient knowledge of IT as it impacts their mission to make informed decisions about what IT they need. Effective communication must be in the user's language, not in technical jargon. This strategy requires increased emphasis on educating users about IT's potential for improving mission performance, how to effectively work with the IM community, and how to get the most from IT investments in place by 2003.

Strategy 1.2.3 Obtain customer feedback at all levels
Understanding and acting on customer feedback is essential in forging and maintaining effective partnerships. Senior leadership must interact with the customers to understand and respond to needs and concerns. This strategy must also extend through all levels of the community, with mechanisms in place to survey customer satisfaction and needs. Customer interaction must be a key influence on strategic plans, business, and day-to-day service and information delivery by 2002.

Goal 2—
Provide Services That Satisfy Customer Information Needs

Description: To accomplish its mission, ARL must focus the information infrastructure on getting required and appropriate information to mission and mission support customers in a range of scenarios from peacekeeper roles to the most severe battlefield conditions. As information generation capabilities become more complex, (e.g., maps, video) ARL must become more involved in managing the information space for the user and integrate and modernize its information infrastructure. Users need the information services and tools necessary to identify, retrieve, fuse, and format information easily and immediately.



The underlying technology platform must be modernized to attain world-class stature and integrated to support the "one lab" vision. ARL's base-level infrastructure needs urgent attention. A shared data environment to ensure semantic interoperability and cross-functional integration must remain a priority. A common operating environment throughout ARL and in concert with AMC will expedite application system implementation and allow incremental implementation. Infrastructure components must move from an "organization/technology centric" paradigm to an interconnected set of services/products with quantifiable cost and performance measures to determine value-added to the mission. The cost of the infrastructure must be commensurate to its contribution to the mission.

Management of the end-to-end infrastructure must support the goals of seamless integration and modernization. Today's systems are too often narrowly focused, not fully interoperable, and support a single function or organization requiring users to assemble information from incompatible sources. Breaking out of this stovepipe environment requires new management mechanisms that crosscut organizational boundaries. Common and shared solutions will reduce unnecessary duplication and cut costs for everyone.

Objective 2.1 Build An Infrastructure Based on Architectures and Performance

Strategy 2.1.1 Deploy a comprehensive, uniform methodology to define and integrate ARL architectures

Architectures provide the best, long-term definition of the mission and related IT support. An integrated architecture framework for operational, systems, and technical architectures must be established to ensure interoperability and consistency. A disciplined support environment, similar to that provided by "data modeling" support tools, would advance a common understanding of missions and IT support by enforcing rigorous element definitions and relationships to other elements. Roles and responsibilities for generating, integrating, and using architectures in managing information and supporting IT must be institutionalized. The target is a "system of systems" architecture that can be expanded to include all missions. Technical architectures should bridge the gaps between weapons, platforms, and information systems. Interoperability must be "built-in" throughout the process, from requirements generation through certification and testing, and demonstrated in "live" environments by 2005.

Strategy 2.1.2 Build performance measures into the infrastructure

This strategy envisions having performance measures for all information related products and services. When complete, efficiency and investment decisions can be based on systematic assessments of information cost and value added to mission customers. Fielding a user oriented performance management system to systematically capture, archive, and report performance information is part of this strategy, which will be in place by 2002.

Objective 2.2 Modernize and Integrate the ARL Information Infrastructure

Strategy 2.2.1 Improve base-level infrastructure

ARL's base level communications and computing infrastructure and data storage environment needs to be reengineered and upgraded. Inconsistencies in technical and management procedures and capabilities complicate IT change planning and implementation. A major effort will be required to put in place a consistent management structure and modernized IT able to deliver quality support by 2004.

Strategy 2.2.2 Continue ARL-wide applications implementation

As ARL-wide applications (formerly referred to as migration systems) align applications support with ARL functions and processes, future IT investments should be linked directly to process improvements. ARL-wide applications must have plans to achieve acceptable levels of Joint Technical Architecture/Common Operating Environment (JTA/COE) compliance by 2003 or earlier. Continued emphasis must be placed on implementing applications to support reengineered processes that achieve mission and functional goals and measures of performance. COTS software should be used to the maximum extent possible. Information support providers, in house and contractors, must maintain a program of continual improvement keyed to user requirements, software best practices, and the software capability maturity models.

Strategy 2.2.3 Expedite implementation of common standards

The JTA/COE provides the standards and interface environment for interoperability and a transparent technical infrastructure that supports all applications, to include seat management for common applications. Wide implementation will reduce planning time for applications and enable their timely, incremental implementation in a "plug and play" environment. Infrastructure elements and

applications should be JTA/COE compliant at appropriate levels by the year 2002 or earlier.

Objective 2.3 Introduce New Paradigms

Strategy 2.3.1 Rapidly insert advanced technology to support the mission
Technology is changing faster than the current infrastructure can adapt. New methods are needed to gracefully introduce new technologies incrementally with manageable risk rather than requiring lengthy contracting and development efforts. Distributed, Internet environments must be used to assess, test, integrate, and acquire new IT capabilities and COTS products. The target is a systematic management structure and methodology that "pipelines" new technologies linked to evolving mission needs and smoothly supplies these capabilities to the field before the end of 2002.

Objective 2.4 Improve IT Management Tools

Strategy 2.4.1 Integrate information access and management methods for all media and types of information
The user needs automated, streamlined methods to routinely and reliably access information. A common semantics, syntax, and procedures set would include electronic directories, such as the Government Information Locator Service (GILS), Defense Data Dictionary System (DDDS), Defense Messaging System (DMS) and directory and search methodologies employed by WWW information providers. The target is for on-line data dictionaries to be a primary source for ARL user assistance when accessing information (e.g., WWW documents) by 2002.

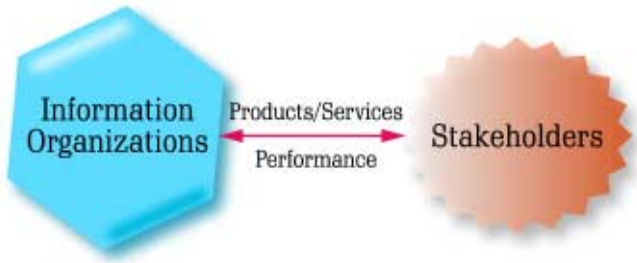
Strategy 2.4.2 Implement IT Total Asset Visibility (ITTAV) universally
Total Asset Visibility is a Defense-wide initiative. The ITTAV concept can be used to manage IT "objects" like hardware, software, and data for the user throughout their life cycle. ITTAV "tracking" includes tracking the status of user orders for IT objects, maintaining accurate inventory records, automatically ordering upgrades, and managing asset reuse and removal. The target is a WWW based repository that can be accessed by developers and users to determine availability, reliability, maintainability, etc., for any information or IT asset affecting their service by 2003.

Goal 3—
Reform IT Management Processes to Increase Efficiency and Mission Contribution

Description: As support resources decline in line with the overall guidelines established by QDR 97, information and information technology must be managed as a strategic resource. ARL must base information and information technology decisions on their contribution to the effectiveness and efficiency of their mission and supporting business functions. It is important to manage IT resources and align strategies and programs with ARL/AMC-wide, functional, and organizational goals and measures. In accordance with the Government Performance and Results Act (GPRA), measures of performance for IT must be managed in the context of functional and organizational measures of performance to plan and assess IT's contribution to the mission. Information management, itself a business function, must employ best business practices to continuously improve customer/user support, reduce infrastructure costs, and apply the best available information technology.

To accomplish this goal successfully, ARL must:
- Fully assess all current IT processes
- Identify processes which can be improved
- Perform comprehensive reengineering of those processes

- Prepare and disseminate comprehensive and definitive guidance for IT acquisitions (hardware and software)



A common baseline throughout ARL would serve to streamline the IT acquisition process and reduce overhead and lead time, leading to improved customer support and reduced support costs. Improved acquisition initiatives must fully integrate all ARL efforts to promote the "one laboratory" vision.

The ARL baseline evaluation, ERP implementation and the COE will address several of these issues, such as streamlining the acquisition process, and providing a matrix to measure performance of IT functions, as well as effectiveness of business processes.

Objective 3.1 Institutionalize CCA Provisions

Strategy 3.1.1 Align IT investment decisions to support improved mission processes

To support strategic plans and improved processes, IT alternatives must consider mission impacts at the ARL-wide, functional, and organizational levels. IT investment criteria must be applied to develop IT portfolios for functions and organizations within the context of an overarching ARL IT portfolio managed by the CIO. These criteria shall be in place before the end of 2002.

Strategy 3.1.2 Improve acquisition processes

Streamlined acquisition regulations and oversight processes can reduce acquisition overhead and lead-time. Acquisition reforms should be fully implemented at all levels. Promising concepts and technologies from research experiments, pilot projects, and operational demonstrations must be moved through the acquisition process smoothly and efficiently. New paradigms of acquisition must be exploited that expedite the use of COTS (e.g., the Federal Acquisition Regulation (FAR) Section 12, new testing rules for COTS), exploit commonalities (e.g., product lines), and provide insight into front-end processes (e.g., ACTDs) and other initiatives (e.g., Global Combat Support System (GCSS)). Selection, control, and evaluation of IT portfolios provide better links to the mission and base for improved management of individual systems and initiatives. Automated acquisition processes (eBusiness) shall be in place before 2004.

Strategy 3.1.3 Institute the customer/user focus

Tools and policy will help activities systematically introduce and maintain customer awareness and compare their performance with peers. In industry, customer focus is routinely practiced and supports continuous improvement of processes, practices, and people. Routine use of integrated customer surveys by IT organizations to measure satisfaction at all levels is a key approach. These surveys shall be implemented prior to 2002.

Objective 3.2 Institute Fundamental IT Management Reform Efforts

Strategy 3.2.1 Improve IT processes

A comprehensive reengineering of IT processes themselves will serve to identify the optimum collection of information needed for efficient IT management. Experience in the IT community can be exported to produce cost/performance gains and cross-functional optimization in other areas. This strategy envisions a comprehensive, time-phased plan for assessing and improving all IT processes, including strategic planning, policy and policy enforcement, requirements genera-

tion, programming and budgeting, acquisition, and operations. These improvements shall be implemented prior to 2002.

Strategy 3.2.2 Establish uniform organizational measures and assessment processes

Performance measures linked to mission need to be embedded systematically at all levels of ARL. While the focus is on organizational improvement, both Capability Maturity Models (CMM) and Baldrige Criteria, for example, provide quantitative assessment methods that can be used as performance indicators. These shall be in place before 2002.

Strategy 3.2.3 Improve methods and tools

Tools have been provided to assist activities performing BPR, benchmarking, Total Quality Management (TQM), architectures and other improvement activities. These and other tools must be integrated into the actual life-cycle, so end-users, managers and developers can apply them easily, routinely, and incrementally, and also share results with others. Expansion is needed to make the capabilities available via WWW or ARL Intranet, and useful for integrating with other AMC/Army systems, including regular reporting. These shall be made available by 2003.

Objective 3.3 Promote the Development of an IM/IT Knowledge-Based Workforce

Strategy 3.3.1 Provide training and educational opportunities

Ensure that appropriate training, professional development, and rewards for the work force of the ARL support IM processes, policies and innovations.

Strategy 3.3.2 Effectively utilize existing personnel processes, collaborate with other organizations to create new policies, and implement a multi-faceted approach to acquiring, retaining, and maintaining highly skilled personnel in the IM/IT fields

Use the recruitment process to acquire skilled personnel based on CCA core competencies. Use tools such as the performance evaluation process to assess employee performance to determine required training in areas of deficiency. (Beginning in 2003.)

Strategy 3.3.3 Use organization and individual assessment tools to determine skill requirements

Such tools can consist of surveys, studies, self-assessment, and organization assessment tools (automated and non-automated models). These assessment tools shall be in place by 2004.

Objective 3.4 Provide the IM/IT Support Required to Ensure Individuals with Disabilities Have Equal Access to the Information Environments and Opportunities in ARL

Strategy 3.4.1 Execute the Computer/Electronic Accommodations Program (CAP)

Provide the hardware, software, and supportive technologies and services to make ARL work environments and activities more accessible to individuals with visual, hearing, dexterity, and cognitive impairments before 2003.

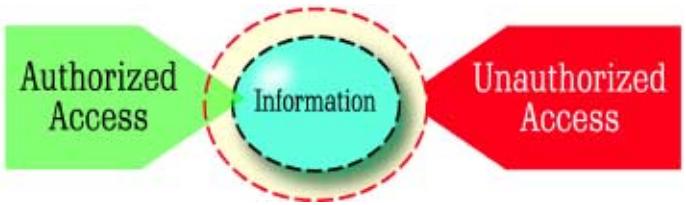
Objective 3.5 Integrate ARL IT Activities

Strategy 3.5.1 Provide tailored IM guidance for all missions and domains

Ensure that IM processes, policies and innovations are appropriate for different mission and technical domains.

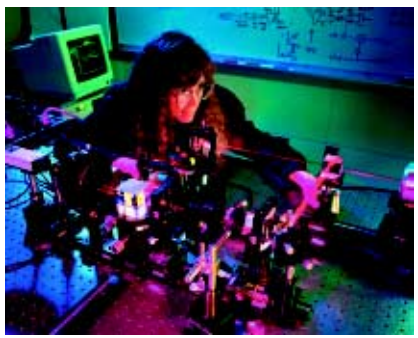
Strategy 3.5.2 Identify relationships between IT activities in different domains
Identify the relationships between IT applied in different domains to ensure that overarching objectives such as interoperability, information security, and efficiency are met; and mission threads, such as sensor-to-shooter, are effective. Dependencies such as those between IT activities in support missions (e.g., procurement, personnel) and the common infrastructure will be described and strategies for managing them established. Interoperable IT is integral to the effectiveness of Army weapon systems.

Goal 4—
Ensure AMC/DoD Vital Information Resources are Secure and Protected



Description: The capability of ARL to carry out its mission from peacetime through conflict is highly dependent upon information systems and networks throughout AMC and DoD. In today's environment of sophisticated weaponry and rapid global force projection requirements, the ability to provide timely accurate information is vital to all aspects of operations. Indeed, Information and Decision Superiority is at the very foundation of our vision of modern warfare, and Information Assurance (IA) is essential to achieve and maintain information superiority. IA is integral to JV2010 and the ability to integrate intelligence, command and control, and battlefield awareness functions into joint and combined operations. IA is an essential element to implementing protection of critical national infrastructures mandated by the Presidential Decision Directive - 63, Critical Infrastructure Protection.

A robust IA program requires:
- Concept of operations
- Continuous monitoring and assessment of threats, vulnerabilities, and readiness posture
- Appropriate architecture, technology, tools, and material
- Sufficient numbers of adequately educated and well-trained personnel
- Effective operational policies and doctrine.
- Appropriate management and oversight
- The ability to quickly and efficiently implement agency-wide security measures and countermeasures to limit damage when threatened



ARL will assess existing network protective measures to ensure there are no network vulnerabilities that could potentially threaten the integrity of the system or data. An Information Assurance Plan must be established and implemented throughout ARL by 2002. ARL must also use a common, integrated Public Key Infrastructure (PKI) to enable security services at multiple levels of assurance. The PKI implementation is in accordance with DoD plans and policies regarding the PKI Roadmap, PKI Implementation Plan, and the PKI Certificate Policy.

Objective 4.1 Make IA an Integral Part of ARL Mission Readiness Criteria

Strategy 4.1.1 Designate all IT functions as mission critical, mission essential, or mission support
ARL defense infrastructure owners (e.g., command and control, logistics and transportation, health affairs, intelligence, personnel, financial services) need to identify those mission functions and information system elements of their infrastructures that perform mission critical, mission essential, or mission support functions by 2002.

Strategy 4.1.2 Provide information assurance levels consistent with the ARL's mission critical, mission essential, and mission support requirements for all networks
Detailed assurance criteria for each level and interconnection between levels must be developed and specified by 2003.

"IA is an essential element to implementing protection of critical national infrastructures"

Strategy 4.1.3 Integrate IA readiness standards and metrics into the ARL readiness reporting process
ARL IA policy must address the accountability aspects of IA. It must drive the availability of resources required by operational directors and others accountable for their information, and thus ARL's IA posture by 2004.

Objective 4.2 Enhance ARL Personnel IA Awareness and Capabilities

Strategy 4.2.1 Train and certify ARL network managers, operators, systems administrators, and all other personnel involved in the operation and management of the network and its component systems
Training and certification must extend into the contractor community supporting ARL. Eighty percent of personnel in this category shall be certified by 2005.

Strategy 4.2.2 Review and enhance (as needed) military and civilian career fields to ensure that they reflect adequate recognition of network information assurance skills and capabilities
Career field designation is essential to establishing ascension paths for the military and civilian disciplines critical to ensuring efficient secure operation of the network. This review shall be completed by 2003 and a recognition program in place by 2004.

Objective 4.3 Enhance ARL IA Operational Capabilities

Strategy 4.3.1 Protect the network with a defined and controlled perimeter
While ARL depends upon unclassified connections to the Internet to accomplish unclassified basic support functions and to provide access to open source information, these connections must be controlled and capable of being monitored. Interconnection of all classified systems with any other system will be accomplished by high assurance means. Authentication must be broadly employed as soon as possible but not later than 2002.

Strategy 4.3.2 Protect the network with an integrated attack sensing and response management capability
As part of the integrated capability, all ARL Components of the network and all access points into the network must have intrusion detection capabilities as soon as possible but not later than 2002.

Strategy 4.3.3 All ARL Components of the network must adhere to established IA architecture, connection standards and procedures
All network elements must provide the required levels of security configuration management, employ methods to detect unauthorized activity and malicious code, and have adequate provisions for continuity of operations and rapid reconstitution immediately prior to the end of 2001.

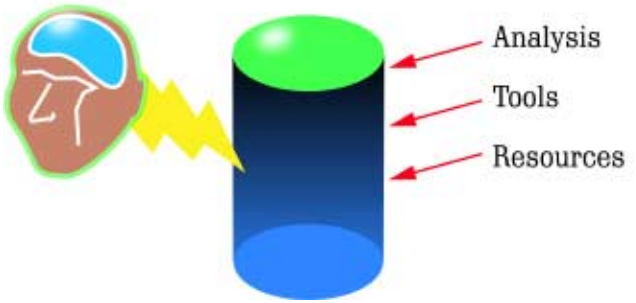
Strategy 4.3.4 Implement "Defense in Depth" concepts across ARL
This concept will be applied to each operating assurance level and shall be applied in accordance with DoD criteria, including existing protective measures traditionally used to safeguard national security information. This strategy implemented by 2003 will consist of the following:

- Hardened network infrastructure
- Protected host secure operating systems
- Protected enclave boundaries
- User/Application layer security services, including non-repudiation, signature, integrity, and confidentiality
- Employment of strong identification and authentication (I&A) services
- Use of a common, integrated ARL Public Key Infrastructure (PKI) to enable security services at multiple levels of assurance
- IA situational awareness based on both network and host monitoring to formulate and support an attack sensing and response management capability
- Approved high assurance devices and configurations for all interconnections among mission sensitivity levels

Objective 4.4 Establish an Integrated ARL Security Management Infrastructure (SMI)

Strategy 4.4.1 Integrate a broad spectrum of network services (e.g., audit, intrusion detection, operational network monitoring and control) into the ARL SMI
Confidence in the secure operation of the network must be grounded in a real-time understanding of network-wide activities. Further, the ability to identify when network users have gained access to unauthorized areas or information or to be able to attribute specific network activity to specific users of the network is an important factor in dealing with the insider threat. Implement the ARL PKI consistent with the May 6, 1999 DoD policy memorandum, DoD PKI Roadmap, DoD PKI Implementation Plan, and the DoD PKI Certificate Policy. This capability shall be implemented not later than 2003.

Goal 5—
Showcase Knowledge Management Research and Potential



Description:
Knowledge management (KM) is the leveraging of collective wisdom to increase responsiveness and innovation. To support this goal, ARL must establish knowledge management policy, provide guidance and oversight, and leverage technology, fostering information superiority for the war fighter, while maintaining and strengthening national security.

Providing information accessibility, accuracy, and reliability for the Army Research Labs promotes the "one laboratory" approach. This information must be responsive to business needs, and safe from compromise. It is also the basis for ARL's support to higher-level command.

There are three main initiatives ARL must employ to support this goal:

1. Build a framework to determine the value of information.
2. Facilitate flexible access to the best sources of information and services for the customers.

3. Facilitate the creation, capture, sharing and management of implicit and tacit organizational knowledge. Identify, centralize, and organize access to the numerous knowledge sources available and critical to the enterprise.

ARL's responsibility in this arena encompasses three levels of expertise:
1. Establish KM within ARL.
2. Act as KM Center of expertise for AMC, DA and an asset to all of DoD.
3. Identify and undertake necessary KM research and development.

Knowledge management, as it applies to the war fighter, is the means to assist in understanding the battle space, while depriving the enemy of information for their understanding of the battle space.

ARL should ensure that appropriate training, professional development, and rewards for the work force support IM processes, policies and innovations deployed throughout the organization.

Objective 5.1 Move Toward an Information Marketplace

Strategy 5.1.1 Build a framework to determine the value of information
Our military capabilities are heavily dependent on focused information. The value of information is a primary discriminator in business decisions and information assurance protection strategies that focus on priority targets. This strategy requires developing and applying knowledge management methods and tools for helping a customer determine the value of information to their missions and tasks (and the risks of not having the information). This methodology, if successful, can help reduce the "glut" of information and enable ARL to treat information itself as a commodity. This framework shall be in place prior to the end of 2001.

Strategy 5.1.2 Facilitate flexible access to the best sources of information and services for customers
The customer should have a full spectrum of interoperable quality information resources and services to choose from, at affordable prices—a menu of mission/task-related products, services and related cost/performance. The interface to the customer will have many of the characteristics of an information marketplace such as quality/cost comparison information, flexibility, choice of supplier, customer feedback, and ubiquitous help. This strategy envisions new approaches to manage information resources that use market concepts to get customers the products and services on time and at an affordable cost. It envisions increased use of performance contracts, partnering agreements, fee-for-service, and devolution of purchasing of IT to lowest levels. This strategy shall be in place prior to the end of 2003.

Strategy 5.1.3 Facilitate the creation, capture, sharing and management of implicit and tacit organizational knowledge
Identify, centralize, and organize access to the numerous knowledge sources available and critical to the enterprise. Information technology and information services are essential but insufficient to achieve information superiority alone. Knowledge management offers the potential to significantly leverage the value of our information technology investments. The implementation of knowledge management methods and tools will facilitate collaborative knowledge creation and sharing and will, in turn, optimize the effectiveness of strategic and tactical decisions. The target is an agile, responsive, learning organization in which knowledge needed to provide critical mission support is available where and when needed. This capability must be implemented not later than 2004.

Objective 5.2 Provide Information Superiority to the War Fighter

Strategy 5.2.1 Facilitate the means for the war fighter to capture the knowledge necessary to understand the battle space

Through advanced R&D efforts, equip the war fighter with superior technology to capture the information necessary to facilitate the understanding of the battle space. This can be achieved through the use of sensors and advanced C4ISR capabilities.

Strategy 5.2.2 Create advanced systems to deprive the enemy of vital information

The R&D efforts of ARL must also focus on the means to deprive the enemy of gaining an understanding of the battle space. This can be achieved by developing more technologically advanced weapon systems, and the use of RF jamming capabilities and sensors to detect intrusions.

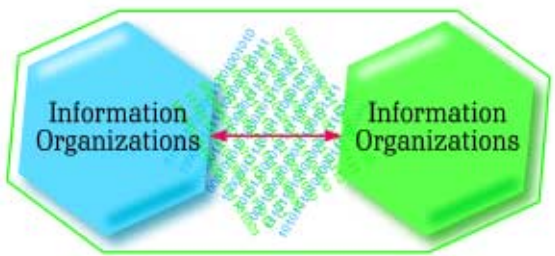
Goal 6—
Use Information Sharing as a Vehicle to Accomplish the "One ARL" Vision

Description: This last goal is strongly tied to goals 1-5. The need for information sharing not only applies to ARL internally, but also the sharing of information with mission partners, across AMC, and throughout DA and DoD.

To accomplish this goal, the following initiatives must be in place:

1. Implement needed security measures in order to protect personal information within data warehouse by FY 2002.
2. Implement document management and make all ARL documents accessible to appropriate persons by FY 2003.
3. Provide access to all financial, human, and physical assets by appropriate persons by FY 2004.

This goal also reinforces the need to have a common IT baseline throughout ARL. This common baseline will increase the efficiency of information sharing, promote the integrity of the information, and allow for easier processing of the shared information.



Implementation of ARL enterprise resource planning (ERP) will provide the vehicle for information sharing, leading to the "one ARL" vision. The ERP will provide for document management, access to financial, human, and physical assets by appropriate persons, and be the basis for knowledge management across ARL. Once fully implemented, ARL will be a leader in attaining the vision of the DoD, DA, and AMC strategies for achieving Information and Decision Superiority.

Objective 6.1 Implement needed security measures in order to protect personal information within data warehouse

Strategy 6.1.1 The individual's right to privacy must be protected in Federal Government information activities involving personal information from the initiation of the project

Strategy 6.1.2 Ensure only those with a need to know are allowed access
Command group, supervisors and personnel managers should have access to employee information. Supervisors' access should be limited to employees under their direct supervision. Personal employee data must be maintained on a server behind a firewall, with only intranet access. Intrusion detection must be deployed to protect the information from unauthorized access. This must be in place prior to deployment of products.

Objective 6.2 Implement document management and make all ARL documents accessible to appropriate persons

Strategy 6.2.1 Foster excellence in scientific research and effective use of Federal research and development funds through open and efficient exchange of scientific and technical government information (subject to applicable national security controls and the proprietary rights of others)

Strategy 6.2.2 Expedite shared data environment implementation
Sharing data is key to interoperability and quality data. Requirements are exploding for reliable, secure, efficient shared information repositories to support ARL applications data and World Wide Web (WWW) information. Core mission critical data items must be logically organized and shared under the control of data "stewards" who are responsible for their quality and use. The target is an accessible set of repositories with information required to support ARL operations. Private facilities and sources should be assessed when considering alternatives. This shall be initiated prior to the end of 2002.

Objective 6.3 Provide access to all financial, human, and physical assets by appropriate persons

Strategy 6.3.1 Employ safeguards to ensure electronic information dissemination is appropriate at all levels
Public access to financial, human, and physical assets of ARL must be legally screened to avoid dissemination of restricted information under the Privacy Act, or information, which in the wrong hands, could cause security implications to ARL. The following are guidelines to follow that must be in place prior to implementation of any product:

- Ensure that information is protected commensurate with the risk and magnitude of the harm that would result from the loss, misuse, or unauthorized access to or modification of such information.
- Limit the collection of information that identifies individuals to that which is legally authorized and necessary for the proper performance of agency functions.
- Limit the sharing of information that identifies individuals or contains proprietary information to that which is legally authorized, and impose appropriate conditions on use where a continuing obligation to ensure the confidentiality of the information exists.
- Provide individuals, upon request, access to records about them maintained in Privacy Act systems of records, and permit them to amend such records as are in error consistent with the provisions of the Privacy Act.

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